

High School to College and Career Pathway: Secondary

Area of Study: Technology and Engineering Education



Pathway: Project Lead the Way (National Pre-Engineering Program)

Middle School		State Requirements			High School Suggested Education Plan				College & Careers																																									
7 th Grade	8 th Grade	Middle School		High School	9 th Grade Suggested	10 th Grade Suggested	11 th Grade Suggested	12 th Grade Suggested	Beyond High School																																									
Language Arts 7 1.00	Language Arts 8 1.00	2.00	Language Arts	3.00	Language Arts 9 1.00	Language Arts 10 1.00	Language Arts 11 1.00	Language Arts 12 1.00	<p>There are a number of options for education and training beyond high school, depending on your career goals.</p> <p>> Certificate</p> <p>> Associate degree</p> <p>> Bachelor degree</p> <p>> Professional degree</p> <p>> On-the-job training</p> <p>> Apprenticeship</p> <p>> Military training</p>																																									
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Science .50	Science 1.00	1.50	Science	2.00	Earth Systems 1.00	Biology 1.00	Physics 1.00 or Physics with Technology 1.00	Chemistry 1.00																																										
Utah Studies .50	U.S. History I 1.00	1.50	Social Studies	2.50	World Civilizations .50	Geography for Life .50	U.S. History II 1.00	U.S. Government and Citizenship .50																																										
P.E. 1.00	Health .50	1.50	P.E./Health	2.00	Participation Skills and Techniques .50	Fitness for Life. 50 / Health Education .50 Lifetime Activities or Sport .50																																												
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CTE Intro 1.00	Exploring Technology .50	1.00	Career and Technical Education	1.00	<div><div>Career and Technical Education Recommended Pathway Courses</div><div>(Students may select individual courses for exploration, or complete pathway for an in-depth focus.)</div><div>CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL</div><table><thead><tr><th>Course #</th><th>Foundation Courses: (required)</th><th>Credit</th></tr></thead><tbody><tr><td>21.0122</td><td>Principles of Engineering</td><td>1.00</td></tr><tr><td>21.0120</td><td>Engineering Design, Introduction</td><td>1.00</td></tr><tr><td>21.0121</td><td>Digital Electronics</td><td>1.00</td></tr><tr><td></td><td>Choose one of the following courses:</td><td></td></tr><tr><td>21.0123</td><td>Computer Integrated Manufacturing</td><td>1.00</td></tr><tr><td>21.0125</td><td>Civil Engineering & Architecture</td><td>1.00</td></tr><tr><td></td><td>Aerospace Engineering</td><td>1.00</td></tr><tr><td>21.0124</td><td>Engineering Design & Development</td><td>1.00</td></tr><tr><td></td><td>Elective Courses:</td><td></td></tr><tr><td>48.0101</td><td>Drafting/CAD</td><td>1.00</td></tr><tr><td>47.0105</td><td>Electronics</td><td>1.00</td></tr><tr><td>48.0503</td><td>Machine Tool</td><td>1.00</td></tr><tr><td>32.0199</td><td>Student Internship (Critical Workplace Skills)</td><td>.50</td></tr></tbody></table><div>4.00 credits for completion</div></div>					Course #	Foundation Courses: (required)	Credit	21.0122	Principles of Engineering	1.00	21.0120	Engineering Design, Introduction	1.00	21.0121	Digital Electronics	1.00		Choose one of the following courses:		21.0123	Computer Integrated Manufacturing	1.00	21.0125	Civil Engineering & Architecture	1.00		Aerospace Engineering	1.00	21.0124	Engineering Design & Development	1.00		Elective Courses:		48.0101	Drafting/CAD	1.00	47.0105	Electronics	1.00	48.0503	Machine Tool	1.00	32.0199	Student Internship (Critical Workplace Skills)
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Workforce Trends Due to the expansion of jobs in the technical fields and the increasing numbers of engineers who are retiring, the number of job openings in technology and engineering is increasing. There is a critical shortage of engineers and engineering technologists entering the field at a time when technology is reinventing itself every few years.		<p>Core Curriculum and elective requirements may vary district to district. Check with your school counselor.</p> <p>Concurrent enrollment course offerings vary by school and district.</p>																																																
Get the Facts Project Lead the Way is offered in over 45 states and the District of Columbia.																																																		
In Utah, an engineer, professional or structural, must be licensed.																																																		
Many Utah post-secondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional post-secondary Pathways for details.																																																		

Note: For more information talk to your school counselor.

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Pathway: Pre-Engineering (Utah Pre-Engineering Plan)

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CTE Intro 1.00	Exploring Technology .50	1.00	Career and Technical Education	1.00	Career and Technical Education Recommended Pathway Courses (Students may select individual courses for exploration, or complete pathway for an in-depth focus.) CLASS AVAILABILITY MAY VARY AT YOUR HIGH SCHOOL				Sample Occupations > Civil Engineer > Civil Engineering Technician > Electrical Engineer > Mechanical Engineer > Mechanical Engineering Technician For more information on salary projections, labor market demand, and training options, visit www.careers.utah.gov
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				21.0104	Foundations of Technology	.50			
				21.0115	Engineering Design	.50			
				21.0116	Materials & Processes	.50			
				21.0114	Pre-Engineering (capstone course)	1.00			
				Elective Courses:			.50 credits		
				48.0101	Drafting/CAD	1.00			
				47.0105	Electronics	1.00			
				52.0621	Entrepreneurship	.50			
				08.0707	Marketing, Introduction	.50			
32.0199	Student Internship (Critical Workplace Skills)	.50							
				Many Utah post-secondary programs accept high school courses toward a two- or four-year degree through concurrent enrollment. Check regional post-secondary Pathways for details.			3.00 credits for completion		

Beyond High School

There are a number of options for education and training beyond high school, depending on your career goals.

- > Certificate
- > Associate degree
- > Bachelor degree
- > Professional degree
- > On-the-job training
- > Apprenticeship
- > Military training

Sample Occupations

- > Civil Engineer
- > Civil Engineering Technician
- > Electrical Engineer
- > Mechanical Engineer
- > Mechanical Engineering Technician

For more information on salary projections, labor market demand, and training options, visit www.careers.utah.gov

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